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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/630,371	08/01/2000	LIVIA POLANYI	106699	5775
25944	7590	10/18/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			ALBERTALLI, BRIAN LOUIS	
			ART UNIT	PAPER NUMBER
			2655	

DATE MAILED: 10/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/630,371

Applicant(s)

POLANYI ET AL.

Examiner

Brian L Albertalli

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date 7/8/04
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Specification

1. The amendments to the specification overcome the objections set forth in the previous Office Action. The objections to the specification are withdrawn.

Claim Objections

2. The amendments to the claims overcome the objections set forth in the previous Office Action. The objections to the claims are withdrawn.

Claim Rejections - 35 USC § 112

3. The amendments to the claims overcome the rejections under 35 USC § 112 set forth in the previous Office Action. The rejections under 35 USC § 112 are withdrawn.

Response to Arguments

4. Applicant's arguments filed July 30, 2004 have been fully considered but they are not persuasive.
5. Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.
6. In regard to independent claim 1, the applicant cites the relied upon passage of Wical (column 10, lines 45-49) and states that **adverbial clauses** are not equivalent to

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a **modifier** text unit. The applicant then cites two previously presented passages from the specification (page 6, lines 19-23 and page 6, line 29 to page 7, line 3) and states that “**a simple comparison**” of the passage cited in Wical at column 10, line 49, and examples from the specification show that an adverbial clause text unit **is not equivalent** to a modifier text building unit. No explanation is given as to what specific features of a modifier text unit patentably distinguishes a modifier text unit from an adverbial clause text unit, as disclosed by Wical.

The examiner contends that the relied upon passages of the specification (page 6, lines 19-23 and page 6, line 29 to page 7, line 3) in fact show that an adverbial clause text unit, as disclosed by Wical, **is equivalent** to a modifier text building unit.

Specifically, Wical, at column 10, line 49, gives an example of a sentence containing an adverbial clause, “After they had voted, the race was run on Sunday”, which corresponds with the example given in the specification on page 6, lines 19-20, “having arrived home early, John ate lunch”. The adverbial clause text unit “After they had voted” (corresponding with the modifier “having arrived home early”) **provides context information** for the content information that “the race was run on Sunday” (corresponding with content information that “John ate lunch”). That is, the adverbial clause text unit “After they had voted” provides the context setting information that “they” voted *before* “the race was run”. Furthermore, Wical discloses that adverbial clauses are identified that occur **at the beginning** of a main clause, so that the adverbial clause “After they had voted” provides the context setting information for

information **encoded further along in the text**, namely that "the race was run on Sunday".

The adverbial clause text unit disclosed by Wical is also **encoded in the form of a prepositional phrase that specifies time** (that the voting occurred *before* the race), and is **separated by a comma from the rest of the sentence**.

Therefore, for the reasons given above, the rejection to claim 1 under 35 U.S.C. 103(a) as being unpatentable over Wical (U.S. Patent 5,708,822), in view of Polanyi (*The Linguistic Structure of Discourse*) is upheld.

7. Similarly, for the same reasons as stated above, the rejection to the parallel independent method claim 13 under 35 U.S.C. 103(a) as being unpatentable over Wical in view of Polanyi (1) (*The Linguistic Structure of Discourse*), and further in view of Polanyi (2) (*A Formal Model of the Structure of Discourse*) is upheld.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wical (U.S. Patent 5,708,822), in view of Polanyi (*The Linguistic Structure of Discourse*).

In regard to claim 1, Wical discloses a system of parsing input discourse (discourse analysis) (200) implemented with circuits (column 4, lines 45-46). The system:

determines if a unit of text contains a modifier unit of text that provides content setting information for information encoded further along in the text (modifier) (column 10, lines 45-49); and

identifies an operator unit of text that provides a commentary on aspects of the organization structure (operator) (column 10, lines 38-44); and

identifies a content unit of text that contains the expression of a state, action, or belief (content) (see column 11, lines 14-15).

Wical does not disclose a coordination determining circuit, a subordination determining circuit, or a binary determining circuit.

Polanyi discloses a discourse parsing system based on a discourse parse tree.

When a second unit of text continues discourse activity begun by a first unit of text, they are linked by a coordination node (pages 17-19, section 3.1).

When a second unit of text interrupts or elaborates upon discourse activity begun by a first unit of text, they are linked by a subordination node (pages 19-21, section 3.2).

Since Polanyi discloses there are only three different kinds of nodes, namely coordination nodes, subordination nodes, and binary nodes, (page 17, lines 1-3), if a second unit of text is not related to a first unit of text by either a coordination relationship

or a subordination relationship, the second unit of text must necessarily be linked to the first unit of text by a binary relationship (pages 21-22, section 3.3).

It would have been obvious to one of ordinary skill in the art to implement the discourse parsing process disclosed by Polanyi on circuits as disclosed by Wical since it has generally been recognized that the use of a conventional control to automate a previously manual operation is obvious because it involves only routine skill in the art and automation makes the system more user friendly. *In re Venner*, 120 USPQ 193 (CCPA 1958).

In regard to claim 2 and 3, Wical discloses that the input discourse may be textual input or speech converted to textual input (column 4, lines 6-8).

In regard to claim 4, Wical does not explicitly state the theme parsing system is used to analyze English text, however, all of the examples are given in English. This would suggest to one of ordinary skill in the art at the time of invention to use the theme parsing system to analyze English text.

In regard to claims 5 and 6, Wical does not disclose the theme parsing system is specifically used to analyze legal or medical writing, however, Wical does disclose that the theme parsing system identifies "industry specific" terminology (column 7, lines 41-56). This would suggest to one of ordinary skill in the art at the time of invention to use the theme parsing system to analyze legal and medical writing.

In regard to claims 7 and 8, Wical discloses that the theme parsing system analyzes textual input (recorded communication) as well as speech input (communication) (column 4, lines 6-8).

In regard to claims 9 and 10, Wical does not disclose the structural representation is a tree structure.

Polanyi discloses a tree structure used for discourse analysis (pages 16-26, section 3-3.4). The tree structure is an open right tree structure.

It would have been obvious for one of ordinary skill in the art at the time of invention to modify the theme parsing system of Wical so that a discourse tree was created, in order to provide "better tools for systematic investigation of discourse level linguistic phenomena", as taught by Polanyi (page 46, line 42).

In regard to claims 11 and 12, Wical does not disclose comparing visualizations of structural representation of discourse for a document genre to the structural representation of discourse for text.

Polanyi discloses a structural representation of a document genre (page 31, (21)) and a structural representation of discourse for a text (20). Additionally Polanyi discloses an analysis of the structural representation of discourse (20) by comparing it to the structural representation of a document genre (21) (pages 31-32).

It would have been obvious for one of ordinary skill in the art to modify Wical so that the structural representation of discourse for a text would be compared to a structural representation of a document genre. The motivation for doing so would be to provide "better tools for systematic investigation of discourse level linguistic phenomena", as taught by Polanyi (page 46, line 42).

10. Claims 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wical in view of Polanyi (1) (*The Linguistic Structure of Discourse*), and further in view of Polanyi (2) (*A Formal Model of the Structure of Discourse*).

In regard to claim 13, Wical discloses a method of parsing input discourse (discourse analysis) that performs a series of tests against each word or phrase (unit of text) (column 9, lines 13-15). As discussed in reference to claim 1, the method can determine if the unit of text is a modifier (column 10, lines 45-49), operator (column 10, lines 38-44), or content unit (see column 11, lines 14-15).

Wical does not disclose using a first unit of text as a root node, then selecting a unit of text not yet inserted into the tree and selecting that node. Further, Wical does not disclose determining if that unit of text is a coordination, and if so, replacing the selected node with a coordination node and adding the selected node as a left child node and adding a new node representing the current unit of text as the right child node, or determining if that unit of text is a subordination, and if so, replacing the selected node with a subordination node and adding the first node as a left child node

and the selected next unit of text as a right child node, or determining if that unit of text is not a coordination or subordination, and if so, replacing the selected node with a binary node and adding the first node as a left child node and the selected next unit of text as a right child node.

Polanyi (1) discloses a method of discourse analysis in which a discourse parse tree is constructed (pages 620-626, section 4). A first unit of text is inserted as a root node (page 620, Fig. 12). When dcu (3) (current unit of text) is determined to continue the discourse activity in the node represented by dcu (b) (selected node), the selected node is replaced with a coordination node. Dcu (b) (selected node) is added as the left child node, and dcu (c) (current unit of text) is added as the right child node of the coordination node (page 621, Fig. 14).

Polanyi (1) further discloses dcu (b) as the current unit of text being compared to dcu (a) (selected node). Dcu (b) (current unit of text) is determined to be an elaboration on dcu (a) (selected node). Dcu (a) (selected node) is replaced by a subordination node, dcu (a) (selected node) is added as a left child node, and dcu (b) (current unit of text) is added as a right child node (page 621, Fig. 13). Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of tree parsing as disclosed by Polanyi (1) with the parsing system of Wical in order to provide a "principled, left to right, clause by clause construction" of a discourse parse tree, as taught by Polanyi (1) (page 616, lines 18-20).

Wical and Polanyi (1) do not disclose replacing the selected node with a binary node, adding the selected node as the left child node and adding the next unit of text as the right child node.

Polanyi (2) discloses a binary structure in which a first text unit (page 21, 13a) is in a binary relationship with a second text unit (13b). In figure 14, it is clear that when evaluated, the selected node (13a) becomes the left child node, and the current unit of text (13b) becomes the right child node to the binary node.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Wical and Polanyi (1) to include binary structures as described in Polanyi (2) in the discourse tree building process. Doing so would allow the discourse tree building method to hold relations between two text units related logically, rhetorically, or interactionally, as taught by Polanyi (2) (page 21, section 3.3).

Additionally, it would have been obvious to one of ordinary skill in the art at the time of invention to perform the discourse parsing method disclosed by Polanyi (1), as modified by Polanyi (2) in addition to the determination of a modifier, operator, or content unit as disclosed by Wical, to create a discourse parse tree that captures the semantic relations among a discourse constituent units, as taught by Polanyi (1) (page 601, abstract).

In regard to claims 14 and 15, Wical discloses that the input discourse may be textual input or speech converted to textual input (column 4, lines 6-8).

In regard to claim 16, Wical and Polanyi (1) does not explicitly state the theme parsing system is used to analyze English text, however, all of the examples are given in English. This would suggest to one of ordinary skill in the art at the time of invention to use the theme parsing system to analyze English text.

In regard to claim 17, Wical and Polanyi (1) does not disclose the theme parsing system is used to analyze other human language texts.

Polanyi (2) discloses an analysis of the Mocho language (pages 26-33, section 3.5).

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Wical and Polanyi (1) to analyze other human languages, as taught by Polanyi (2), so the theme parsing system could also be used in other countries.

In regard to claims 18 and 19, Wical does not disclose the theme parsing system is specifically used to analyze legal or medical writing, however, Wical does disclose that the theme parsing system "industry specific" terminology (column 7, lines 41-56). This would suggest to one of ordinary skill in the art at the time of invention to use the theme parsing system to analyze legal and medical writing.

In regard to claims 20 and 21, Wical discloses that the theme parsing system analyzes textual input (recorded communication) as well as speech input (communication) (column 4, lines 6-8).

In regard to claims 22 and 23, Wical does not disclose the structural representation is a tree structure or that the structural representation is an open right tree structure.

Polanyi (2) discloses a tree structure used for discourse analysis (pages 16-26, section 3-3.4). The tree structure is an open right tree structure.

It would have been obvious for one of ordinary skill in the art at the time of invention to modify the theme parsing system of Wical so that a discourse tree with an open right tree structure was created, in order to provide better tools for systematic investigation of discourse level linguistic phenomena, as taught by Polanyi (2) (page 46, line 42).

In regard to claims 24 and 25, Wical does not disclose comparing visualizations of structural representation of discourse for a document genre to the structural representation of discourse for text.

Polanyi (2) discloses a structural representation of a document genre (page 31, (21)) and a structural representation of discourse for a text (20). Additionally Polanyi (2) discloses an analysis on the structural representation of discourse (20) by comparing it to the structural representation of a document genre (21) (pages 31-32).

It would have been obvious for one of ordinary skill in the art at the time of invention to modify Wical so that the structural representation of discourse for a text would be compared to a structural representation of a document genre, so as to provide

better tools for systematic investigation of discourse level linguistic phenomena, as taught by Polanyi (2) (page 46, line 42).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian L Albertalli whose telephone number is (703) 305-1817. The examiner can normally be reached on Monday - Friday, 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tāivaldis Smits can be reached on (703) 305-0311. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BLA 10/7/04



TĀIVALDIS IVARS ŠMITS
PRIMARY EXAMINER